



**TRANSMITTAL  
FORM**

Application Serial Number	09/912,947
Filing Date	July 25, 2001
First Named Inventor	Dahlbäck
Group Art Unit	Not yet assigned
Examiner Name	Not yet assigned
Attorney Docket No.	INL-036DV
BATCH NO. (after allowance)	Not applicable
Patent No.	Not applicable
Issue Date	Not applicable

**ENCLOSURES (check all that apply)**

<input type="checkbox"/> Fee Transmittal Form <ul style="list-style-type: none"> <li><input type="checkbox"/> Check Attached</li> <li><input type="checkbox"/> Copy of Fee Transmittal Form</li> </ul>	<input type="checkbox"/> Copy of Notice to File Missing Parts of Application (PTO-1553) <ul style="list-style-type: none"> <li><input type="checkbox"/> Formal Drawing(s)</li> </ul>	<input type="checkbox"/> Notice of Appeal to Board of Patent Appeals and Interferences <ul style="list-style-type: none"> <li><input type="checkbox"/> Appeal Brief (in triplicate)</li> </ul>
<input type="checkbox"/> Amendment/Response <ul style="list-style-type: none"> <li><input type="checkbox"/> Preliminary</li> <li><input type="checkbox"/> After Final</li> <li><input type="checkbox"/> Affidavits/declaration(s)</li> <li><input type="checkbox"/> Letter to Official Draftsperson including Drawings</li> <li>[Total Sheets _____]</li> </ul>	<input type="checkbox"/> Request For Continued Examination (RCE) Transmittal <ul style="list-style-type: none"> <li><input type="checkbox"/> Power of Attorney (Revocation of Prior Powers)</li> </ul>	<input type="checkbox"/> Status Inquiry <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Return Receipt Postcard</li> <li><input checked="" type="checkbox"/> Certificate of First Class Mailing under 37 C.F.R. 1.8</li> <li><input type="checkbox"/> Certificate of Facsimile Transmission under 37 C.F.R. 1.8</li> <li><input type="checkbox"/> Additional Enclosure(s) (please identify below)</li> </ul>
<input type="checkbox"/> Petition for Extension of Time	<input type="checkbox"/> Executed Declaration and Power of Attorney for Utility or Design Patent Application	
<input checked="" type="checkbox"/> Information Disclosure Statement <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Form PTO-1449</li> <li><input type="checkbox"/> Copies of IDS Citations</li> </ul>	<input type="checkbox"/> Small Entity Statement <ul style="list-style-type: none"> <li><input type="checkbox"/> CD(s) for large table or computer program</li> </ul>	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> Amendment After Allowance	
<input type="checkbox"/> Sequence Listing submission <ul style="list-style-type: none"> <li><input type="checkbox"/> Paper Copy/CD</li> <li><input type="checkbox"/> Computer Readable Copy</li> <li><input type="checkbox"/> Statement verifying identity of above</li> </ul>	<input type="checkbox"/> Request for Certificate of Correction <ul style="list-style-type: none"> <li><input type="checkbox"/> Certificate of Correction (in duplicate)</li> </ul>	

**CORRESPONDENCE ADDRESS**

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**SIGNATURE BLOCK**

Respectfully submitted,

  
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COPY OF PAPERS  
ORIGINALLY FILED

#703011  
PATENT  
Attorney Docket No. INL-036DV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Dahlbäck

SERIAL NO.: 09/912,947 GROUP NO.: Not yet assigned

FILING DATE: July 25, 2001 EXAMINER: Not yet assigned

TITLE: NOVEL ANTICOAGULANT COFACTOR ACTIVITY

**CERTIFICATE OF FIRST CLASS MAILING UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence, and any document(s) referred to as enclosed herein, is/are being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to the Assistant Commissioner for Patents, Washington, DC 20231 on this 12th day of December, 2001.

  
Julie Westhaver

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Submitted herewith is/are:

Transmittal Form (1 pg.); Information Disclosure Statement (2 pgs.); Form PTO 1449 (4 pgs.); and postcard.

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**PATENT**  
Attorney Docket No. INL-036DV

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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SERIAL NO.: 09/912,947 GROUP NO.: Not yet assigned

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TITLE: NOVEL ANTICOAGULANT COFACTOR ACTIVITY

Assistant Commissioner for Patents  
Washington, D.C. 20231

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. Copies of the patents and publications are enclosed.

This application is a continuation of and claims priority to U.S. Serial No. 08/500,917 under 35 USC § 120. In accordance with 37 CFR 1.98(d) copies of the previously cited patents and publications are not enclosed but are available upon request.

**REMARKS**

In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed (CHECK ONE):

- (1) within three (3) months of the **filings date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or
- (2) after the period defined in (1) but before the mailing date of a **final action or a notice of allowance** under 37 C.F.R. 1.311, and
- the requisite Statement is below, OR

- the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or
- (3) after the mailing date of a **final action or notice of allowance** but before the payment of the **issue fee**, **AND**
- the requisite Statement is below, **AND**
- the requisite petition fee under 37 C.F.R. 1.17(p), namely **\$180.00** is included herein.

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

#### STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that [check the appropriate space only if either (2) or (3) is checked on the previous page and the Statement is required]:

- 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

Respectfully submitted,

Date: December 12, 2001  
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2241104

  
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## INFORMATION DISCLOSURE STATEMENT



ATTORNEY DOCKET NO.: INL-036DV

APPLICANTS: Dahlbäck

SERIAL NO.: 09/912,947

FILING DATE: July 25, 2001

GROUP: Not yet assigned

## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	5,059,525	10/22/91	Bartl et al.			
	A2	5,051,357	09/24/91	Hassouna			
	A3	5,001,069	03/19/91	Bartl et al.			
	A4	5,169,786	12/08/92	Carroll et al.			
	A5	5,443,960	08/22/95	Dahlbäck			

## FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B1	434,377	1991	EP					
	B2	286,323	1988	EP					
	B3	US91/01383	1991	PCT					
	B4	US90/11368	1990	PCT					
	B5	US91/01382	1991	PCT					
	B6	US91/02812	1991	PCT					

## OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	
	C1	Vasse et al., "Protein C: Rouen A New Hereditary Protein C Abnormality with Low Anticoagulant But Normal Amidolytic Activities", <u>Thrombosis Research</u> , 1:56(3):387-398 (1989)
	C2	Amer et al., "Impairment of the Protein C Anticoagulant Pathway in a Patient with Systemic Lupus Erythematosus, Anticardiolipin Antibodies and Thrombosis", <u>Thrombosis Research</u> , 57:247-258 (1990)
	C3	Bauer, "Hypercoagulability-A New Cofactor in the Protein C Anticoagulant Pathway, <u>New England Journal of Medicine</u> , 330:566-567 (1994)
	C4	Bertina et al., "Mutation in blood coagulation factor V associated with resistance to activated protein C" <u>Nature</u> 369:64-67 (1994)
	C5	Chromogenix, Coatest APC Resistance Kit instructions, May 1993
	C6	Chromogenix, Coatest APC Resistance Kit Brochure, June 1993
	C7	Dahlbäck et al., "Resistance to activated protein C, the FV:Q <sup>506</sup> allele, and venous thrombosis" <u>Ann. Hematol.</u> 72:166-176 (1996)

FORM PTO - 1449  INFORMATION DISCLOSURE STATEMENT		ATTORNEY DOCKET NO.: INL-036DV  APPLICANTS: Dahlbäck  SERIAL NO.: 09/912,947  FILING DATE: July 25, 2001  GROUP: Not yet assigned
		<p><b>C8</b> Dahlbäck, "New Molecular Insights into the Genetics of Thrombophilia. Resistance to Activated Protein C Caused by Arg<sup>506</sup> to Gln Mutation in Factor V as a Pathogenic Risk Factor for Venous Thrombosis" <u>Thromb. Haemost.</u> 74(1):139-148 (1995)</p> <p><b>C9</b> Dahlbäck, "Factor V gene mutation causing inherited resistance to activated protein C as a basis for venous thromboembolism" <u>J. Intern. Med.</u> 237:221-227 (1995)</p> <p><b>C10</b> Dahlbäck, et al., "Inherited resistance to activated protein C is corrected by anticoagulant cofactor activity found to be a property of factor V", <u>Proc. Natl. Acad. Sci. (USA)</u> 91:1396-1400 (1994)</p> <p><b>C11</b> Dahlbäck, B., "A New Model for Coagulation Factor V Suggesting a Unique Mechanism of Activation", <u>Scand. J. Clin. Lab. Invest.</u>, 48, Suppl.191:47-61 (1988)</p> <p><b>C12</b> Dahlbäck, B., "Factor VIII Defect Associated with . . ." <u>Thrombosis &amp; Haemostasis</u>, 65, Abstract 39:658 (1991).</p> <p><b>C13</b> Dahlbäck, B., "Familial Thrombophilia Due to a Previously Unrecognized Mechanism Characterized by Poor Anticoagulant Response to Activated Protein C . . .", <u>Proc. Natl. Acad. Sci. USA</u>, 90:1004-1008 (1993).</p> <p><b>C14</b> DiScipio, et al., "A Comparison of Human Prothrombin, Factor IX (Christmas Factor), Factor X (Stewart Factor) and Protein S", <u>Biochem.</u> 16:698-704 (1977)</p> <p><b>C15</b> Esmon, C.T., "The Roles of Protein C and Thrombomodulin in the Regulation of Blood Coagulation", <u>J. Biol. Chem.</u> 264:4743-4746 (1989)</p> <p><b>C16</b> Esmon, C.T., "The Regulation of Natural Anticoagulant Pathways", <u>Science</u> 235:1348-1352 (1987)</p> <p><b>C17</b> Esmon, C.T., "Protein C: Biochemistry, Physiology and Clinical Implications", <u>Blood</u>, 62:1155-1158 (1983).</p> <p><b>C18</b> Faioni, E.M. et al., "Resistance to Activated Protein C in Nine Thrombophilic Families: Interference in a Protein S Functional Assay", <u>Thrombosis and Haemostasis</u>, F.K. Schattauer Verlagsgesellschaft mbH, 70(6):1067-1071 (1993).</p> <p><b>C19</b> Giddings, J.C., et al., "Chapter 12: Laboratory Support in the Diagnosis of Coagulation Disorders" <u>Clinics in Haematology</u>, 14(2):571-596 (1985)</p> <p><b>C20</b> Griffin, J. et al., "Anticoagulant Protein C Pathway Defective in Majority of Thrombophilic Patients", <u>Blood</u>, 82(7):1989-1993 (10/1/93)</p> <p><b>C21</b> Haematol, "Replacement Therapy for a Homozygous Protein C Deficiency-State Using a Concentrate of Human Protein C and S", 70(4):435-440 (Dec. 1988).</p> <p><b>C22</b> Kalafatis, M., et al., "Role of the Membrane in the Inactivation of Factor Va by Activated Protein C", <u>J. Biol. Chem.</u> 268:27246-27257 (1993)</p> <p><b>C23</b> Kane and Davie, "Blood Coagulation Factors V and VII: Structural and Functional Similarities and Their Relationship to Hemorrhagic and Thrombotic Disorders", <u>Blood</u> 71(3):539-555 (1988).</p> <p><b>C24</b> Katzman, "Isolation of Functional Human Coagulation Factor V by Using a Hybridoma Antibody", <u>Proc. Natl. Acad. Sci. USA</u>, 78(1):162-166 (1981)</p>

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## INFORMATION DISCLOSURE STATEMENT

JAN 22 2002  
PATENT & TRADEMARK OFFICE

ATTORNEY DOCKET NO.: INL-036DV

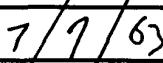
APPLICANTS: Dahlbäck

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GROUP: Not yet assigned

	C25	Kisiel, W., "Human Plasma Protein C: Isolation, Characterization and Mechanism of Activation by Alpha Thrombin", <u>J. Clin. Invest</u> 64:761-769 (1979).
	C26	Kisiel, et al., "Anticoagulant Properties of Bovine Plasma Protein C Following Activation By Thrombin", <u>Biochem</u> 16:5824-5831 (1977)
	C27	Kisiel, et al., "Proteolytic activation of Protein C from Bovine Plasma", <u>Biochem.</u> 15:4893-4900 (1976)
	C28	Laudano, et al., "Synthetic Peptides Modeled on Fibrin Polymerization Sites", <u>Ann NY Acad. Sci.</u> 408:315-329 (1983)
	C29	Laudano and Doolittle, "Studies on Synthetic Peptides that Bind to Fibrinogen and Prevent Fibrin Polymerization. Structural Requirements, Number of Binding Sites, and Species Differences", <u>Biochemistry</u> 19:1013-1019 (1980)
	C30	Laudano and Doolittle, "Synthetic Peptide Derivatives that Bind to Fibrinogen and Prevent the Polymerization of Fibrin Monomers", <u>Proc. Natl. Acad. Sci. (USA)</u> 75:3085-3089 (1978)
	C31	Marciniak, "Coagulation Inhibitor Elicited by Thrombin", <u>Science</u> 170:452-453 (1970)
	C32	Miletich, et al., "Absence of Thrombosis in Subjects with Heterozygous Protein C Deficiency", <u>New Eng. J. Med.</u> 317:991-996 (1987)
	C33	Mitchell et al., "A Fatal Thrombotic Disorder Associated with An Acquired Inhibitor of Protein C", <u>New Eng. J. Med.</u> 317:1638-42 (1987)
	C34	Pratt, C.W., et al., "Protein C Inhibitor: Purification and Proteinase Reactivity", <u>Thrombos. Res.</u> 53:595-602 (1989)
	C35	Root-Bernstein and Westall, "Fibrinopeptide A Binds Gly-Pro-Arg-Pro", <u>Proc. Natl. Acad. Sci. (USA)</u> 81:4339-4342 (1984)
	C36	Salem, et al., "Human Coagulation Factor Va is a Cofactor for the Activation of Protein C", <u>Proc. Nat. Acad. Sci. USA</u> 80:1584-1588 (1983)
	C37	Seegers, et al., "Relationship of 'New' Vitamin K-Dependent Protein C and 'Old' Autoprothrombin II-A", <u>Thromb. Res.</u> 8:543-552 (1976)
	C38	Solymoss, et al., "Kinetics of Inactivation of Membrane-bound Factor Va by Activated Protein C. Protein S Modulates Factor Xa Protection", <u>J. Biol. Chem.</u> 263:14884-14890 (1988)
	C39	Stenflo, "Structure and Function of Protein C", <u>Semin. Thromb. Haemost.</u> 10:109-121 (1984)
	C40	Suzuki, et al., "Inactivation of Human Coagulation Factor V by Activated Protein C", 258:1914-1920 (1983)
	C41	Suzuki, "Gene Structure of Human Thrombomodulin, a Thrombin Receptor on Endothelium Acting as a Cofactor for Thrombin-Catalyzed Activation of Protein C", 51(8):1655-1664 (Dec. 1988).
	C42	Takahashi, "Fast Functional Assay of Protein C", <u>Clinica Chimica Acta</u> , 1275:217-226 (1988).
	C43	Tuddenham, E.G.D., "Thombophilia: a new factor emerges from the mists", <u>The Lancet</u> , 342:1501-1506 (December, 1993)

<b>FORM PTO - 1449</b> <b>INFORMATION DISCLOSURE STATEMENT</b>		<b>ATTORNEY DOCKET NO.: INL-036DV</b> <b>APPLICANTS: Dahlbäck</b> <b>SERIAL NO.: 09/912,947</b> <b>FILING DATE: July 25, 2001</b> <b>GROUP: Not yet assigned</b>
	C44	Walker and Fay, "Regulation of Blood Coagulation by the Protein C System", <u>FASEB J.</u> 6:2561-2567 (1992)
	C45	Walker, et al., "Inactivation of Factor VIII by Activated Protein C and Protein S", <u>Arch. Biochem. Biophys.</u> 252:322-328 (1987)
	C46	Walker, F., "Protein S and the Regulation of Activated Protein C", <u>Semin. Thromb. Haemost.</u> 10:131-138 (1984)
	C47	Walker, "Regulation of Bovine Activated Protein C By Protein S: The Role of the Cofactor Protein In Species Specificity", <u>Thromb. Res.</u> 22:321-327 (1981)
	C48	Walker, J., "Regulation of Activated Protein C by a New Protein", <u>Biol. Chem.</u> 255:5521-5524 (1980)
	C49	Walker, et al., "The Inhibition of Blood Coagulation by Activated Protein C Through the Selective Inactivation of Activated Factor V", <u>Biochem. Biophys. Acta</u> 571:333-342 (1979)
	C50	Zoller et al., "Linkage between inherited resistance to activated protein C and factor V gene mutation in venous thrombosis", <u>The Lancet</u> 343:1536-1538 (1994)
<b>EXAMINER</b> 	<b>DATE CONSIDERED</b> 	

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